Hyper-XACT, A Long-Life, High-Performance Attitude Determination & Control System

Completed Technology Project (2015 - 2021)

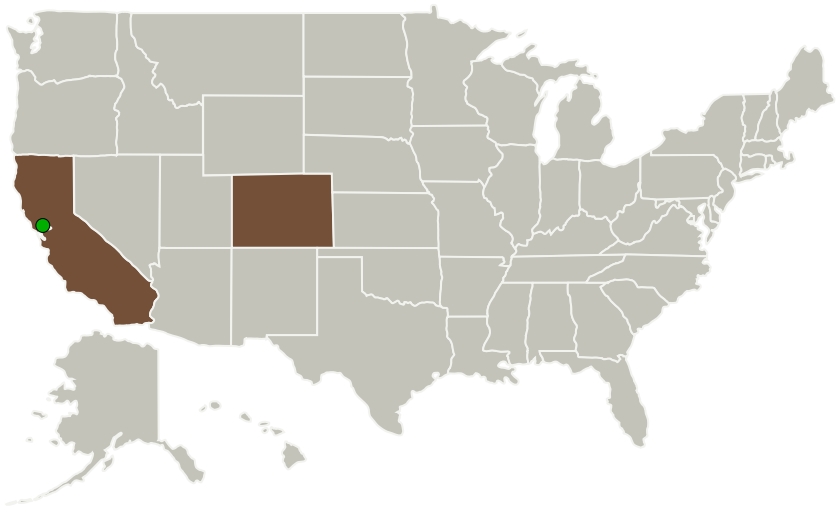
Project Introduction

The Hyper-XACT is intended to extend the capabilities of CubeSat attitude control systems for longer duration missions with tighter performance requirements by improving pointing performance, radiation tolerance, reliability, and system life.

Anticipated Benefits

The Hyper-XACT is intended to provide significantly higher pointing accuracy and knowledge along with higher radiation tolerance and longer life when compared to the current state of the art in CubeSat attitude control systems. These improved capabilities can help enable longer duration CubeSat missions, deep space CubeSat missions, and missions requiring high pointing accuracy for scientific observation.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Blue Canyon Technologies, LLC	Lead Organization	Industry	Boulder, Colorado
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

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Primary U.S. Work Locations	
California	Colorado

Project Transitions

December 2015: Project Start

April 2021: Closed out

Closeout Summary: To be demonstrated on PTD 2 Tech Demo Flight

Project Website:

https://www.nasa.gov/directorates/spacetech/small_spacecraft/index.html#.V(

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Blue Canyon Technologies, LLC

Responsible Program:

Small Spacecraft Technology

Project Management

Program Director:

Christopher E Baker

Program Manager:

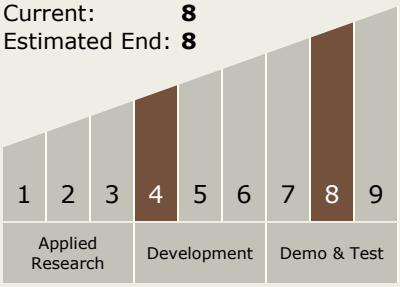
Roger Hunter

Principal Investigator:

John Carvo

Technology Maturity (TRL)

Start: **4**
Current: **8**
Estimated End: **8**



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Target Destinations

Earth, The Moon, Mars